

U.S. PATENT AND TRADEMARK OFFICE  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Ralf Hofmann, Torsten Schulz, Bernd Eilers, and Thomas Pfohe  
Assignee: Sun Microsystems, Inc.  
Title: A COMPUTER-BASED PRESENTATION MANAGER AND METHOD FOR INDIVIDUAL USER-DEVICE DATA REPRESENTATION  
Serial No.: 09/759,744 Filed: January 12, 2001  
Examiner: Unknown Group Art 2152  
Unit:  
Docket No.: P-4592

Monterey, CA  
May 9, 2003

CLEAN COPY OF SPECIFICATION REPLACEMENT PARAGRAPH(S)

Replace the paragraph extending from Page 3, line 13 to Page 3, line 24 with:

*A1*  
In one embodiment, a method for presenting data on a user device includes: receiving, by a presentation manager, a request from the user device for data from any one of a plurality of different data sources, identifying presentation requirements of the user device to the presentation manager, and selecting a presentation scheme for the data in accordance with the presentation requirements of the user device, where the presentation scheme can be applied to the data to generate presentable data for the user device.

Replace the paragraph extending from Page 4, line 20 to Page 4, line 25 with:

*G2*  
Two or more portlets may be arranged in a tree-like organization. This tree-like organization is presented to a user of the user device, for example, on a display screen of the user device, so that this user has the possibility to easily choose among the content offered via the portlets.

Replace the paragraph extending from Page 5, line 16 to Page 5, line 21 with:

*Q3*  
In one embodiment, selecting a presentation scheme includes selecting an XSL-stylesheet. The received request includes, in another embodiment, a command. The command is selected from a group of commands consisting of load, save, article, and channel.

Replace the paragraph extending from Page 6, line 4 to Page 6, line 15 with:

*Q4*  
In a further embodiment of the present invention, a presentation manager server system includes a web server, a presentation manager coupled to the web server, and at least one portlet coupled to the presentation manager. The at least one portlet may comprise any one of a mail portlet, a resource description framework portlet, and an internal network information portlet. A portlet is associated with content that is retrieved by that portlet. The presentation manager server system also may include a storage medium having stored thereon a plurality of presentation schemes.

Replace the paragraph extending from Page 6, line 16 to Page 6, line 19 with:

*Q5*  
In another embodiment of the presentation manager server system, the web server includes a servlet container, and the presentation manager includes a servlet.

Replace the paragraph extending from Page 6, line 20 to Page 6, line 31 with:

In yet another embodiment, a computer program product has stored thereon computer instructions for a method including: receiving a request from the user device for the data;

*Ab  
ent*

identifying presentation requirements of the user device; and selecting a presentation scheme for the data in accordance with the presentation requirements wherein upon application of the presentation scheme to the data, new data presentable on the user device is generated.

---

*Am*

Replace the paragraph extending from Page 6, line 32 to Page 7, line 13 with:

In a further embodiment, a computer program product has stored thereon computer instructions for a method including: receiving a request from a user device generated by selection of a portlet identification object on the user device; transferring the request to a portlet wherein the portlet retrieves data specified in the request over a network and further wherein the data has one format in a plurality of source data formats; analyzing the request to determine a user data format that is supported by the user device; selecting a presentation scheme to convert the data from the source data format to the user data format; and converting the data from the source data format to the user data format using the presentation scheme.

---

*AS*

Replace the paragraph extending from Page 7, line 14 to Page 7, line 37 with:

In yet another embodiment, a computer program product has stored thereon computer instructions for a method including: receiving a request from a user device generated by selection of a portlet identification object on the user device by a web server; analyzing the request by the web server to determine whether the request is for content associated with a portlet; transferring the request to a presentation manager upon determining that the request is for the content associated with a portlet; passing the request to the portlet by the presentation manager wherein the portlet retrieves data

---

G8  
JW

specified in the request over a network and further wherein the data has a source MIME type; analyzing the request to identify a user MIME type; selecting a presentation scheme from a plurality of presentation schemes based upon the user MIME type and the source MIME type; and converting the data from the source MIME type to the user MIME type using the presentation scheme.

Replace the paragraph extending from Page 9, line 15 to Page 9, line 31 with:

09  
According to the principles of this invention, a single presentation manager 113, executing on a presentation manager server system 100, accesses information from any one of a plurality of content sources 101A to 101C in response to a request from any one of a plurality of user devices 102A to 102F. Each of the plurality of user devices 102A to 102F may have different requirements for presentation of information retrieved by presentation manager 113, i.e., different presentation requirements. When a request for information is received from a particular user device, presentation manager 113 retrieves the information, identifies the presentation requirements of the particular user device, and then transforms the information, if necessary, using a presentation scheme specific to the user device so that the information can be presented on the particular user device.

Replace the paragraph extending from Page 12, line 17 to Page 12, line 26 with:

10  
In an explorer region on display screen 150 is a mail icon 124. If the user selects mail icon 124, a hierarchical view is generated on display screen 150A as illustrated in Figure 1B, each entry of which represents a portlet that can be used, in one embodiment, to request information from presentation manager server system 100. Corresponding to each

*Oc 8/*  
icon displayed on user device 102A is a portlet, e.g., portlets 115 to 117 that are coupled to presentation manager 113, as explained more completely below.

Replace the paragraph extending from Page 13, line 22 to Page 13, line 34 with:

*A11*  
Thus, an individual user can personalize the user device by specifying which service providers from among the ones the organization has made available via portlets, the user wants to use. To put it another way, the user chooses which portlets the user wishes to be included on the desktop as illustrated in Fig. 1B. (A portlet is the smallest unit of information that can be put in a portal.) Hence, presentation manager server system 100 eliminates prior art limitations on a single user system on a network accessing content on any desired provider system that is coupled to the network.

Replace the paragraph extending from Page 15, line 19 to Page 15, line 31 with:

*A12*  
As used herein, the presentation scheme for a user device is the totality of the configuration information needed to extract data from a first format and transform the data into new data for presentation on that user device. In one embodiment, as explained more completely below, the presentation schemes include a plurality of eXtensible Style sheet Language (XSL)-stylesheets that are stored on a storage medium for access by presentation manager 113. Each XSL-stylesheet transforms eXtensible Markup Language (XML) data to new data that can be processed and displayed by a particular user device, sometimes referred to as user device presentable data.

Replace the paragraph extending from Page 15, line 13 to Page 16, line 18 with:

*GB*

In selecting a presentation scheme, in one embodiment, presentation manager 113 determines whether the request from the user device includes a specific identification of a presentation scheme; a list of MIME types that the user device is capable of displaying; and either a user identification and/or a device identification. If the user request specifies a specific presentation scheme, for example, a particular XSL-stylesheet, presentation manager 113 selects that stylesheet as the presentation scheme. If a MIME type is specified in the request and presentation manager 113 has an XSL-stylesheet for transforming the requested content to that MIME type, this XSL-style sheet is selected. If the requested content is in a MIME type that is in the list of MIME types in the request, presentation manager 113 simply passes the retrieved content straight thru. If presentation manager 113 cannot identify a specific presentation scheme for the requested data, presentation manager 113 simply passes the retrieved content straight thru, in one embodiment. Thus, in each instance, presentation manager 113 identifies the presentation requirements based upon information specified in the request, and selects an appropriate presentation scheme.

*A14*

Replace the paragraph extending from Page 17, line 20 to Page 17, line 25 with:

Figure 2A is a process flow diagram of one embodiment of a method 200 according to the present invention. Figure 3 is a more detailed block-level diagram of one embodiment of presentation manager server system 100 that implements method 200 of Figure 2A. In this embodiment, network server 111 is a web server 111, and presentation manager 113 is a portlet manager 113.

Replace the paragraph extending from Page 20, line 19 to Page 20, line 29 with:

*A15*

The request from the user device in operation 210 goes over a network to web server 111, which in this embodiment is a web server 111. In one embodiment, web server 111 is the Tomcat server supplied by The Apache Software Foundation, 1901 Munsey Drive, Forest Hill, MD 21050-2747, U.S.A. However, in this embodiment, any HTTP server that supports the functionality and operations described herein can be used as web server 111. In one embodiment, web server 111 is a servlet container, and portlet manager 113 is implemented as a servlet.

Replace the paragraph extending from Page 20, line 36 to Page 21, line 14 with:

*A16*

Check operation 215 can be implemented in various alternative ways. In one embodiment, deployment descriptors as defined in the JAVA 2 Enterprise Edition are used and checked in operation 215 to determine where to direct the user request.

The JAVA 2 Platform Enterprise Edition Specification, v1.2, Sun Microsystems, Inc., Palo Alto, CA (1999) and the JAVA Servlet Specification, v2.2, Sun Microsystems, Inc. Palo Alto, CA (1999) are incorporated herein by reference to show the level of skill in the art. Based upon the deployment descriptors, if the request is for web server 111, processing transfers to continue operation 216 and conventional processing continues. Otherwise, the request is forwarded to portlet manager 113 and processing transfers to contact portlet operation 220.

Replace the paragraph extending from Page 21, line 26 to Page 21, line 31 with:

*A17*

Thus, if the request is supported by web server 111, processing transfers to continue operation 216 and conventional processing continues. Otherwise, the request is forwarded to portlet manager 113 and processing transfers to contact portlet operation 220.

Replace the paragraph extending from Page 22, line 33 to Page 23, line 3 with:

*Q18*

In identity check operation 242, portlet manager 113 determines whether the request included identification information. If the request included identification information, processing transfers to get identity from request operation 243 and otherwise, processing transfers to retrieve scheme operation 270. Get identity from request operation 243 retrieves the device identification from the request and transfers to retrieve scheme operation 270.

Replace the paragraph extending from Page 25, line 27 to Page 26, line 3 with:

*Q19*

If the request specifies an XSL-stylesheet, check operation 401 transfers to XSL extension check operation 413, which in turn determines whether the specification in the request includes an XSL extension (.xsl). If the request included the extension, processing transfers to preferred XSL-stylesheet available check operation 415 and otherwise to set extension operation 414. Set extension operation 414 adds a XSL extension to the requested stylesheet and transfers to preferred XSL-stylesheet available check operation 415. Upon entry to operation 415, a MIME type, a device type and a XSL-stylesheet are specified so that the path to the storage location of the stylesheet can be constructed.

Replace the paragraph extending from Page 27, line 13 to Page 27, line 24 with:

*Q20*

In this example, it was assumed that convert data operation 271 was performed on the same computer running portlet manager 113. However, in another embodiment, retrieve scheme operation 270 and retrieve data operation 230 send the retrieved scheme and retrieved data respectively to another

020

computer system connected to the user device, or the user device itself. In these cases, convert data operation 271 is performed on the another computer system, or the user device, and return converted data operation 272 is performed only if operation 271 was executed on other than the user device.

Replace the paragraph extending from Page 28, line 3 to Page 28, line 13 with:

021

However, in this situation, portlet manager 113 issues a translation request to a filter server 315. In one embodiment, portlet manager 113 sends a request that includes the MIME type required as input to the presentation scheme for the user device, and an address of the requested document to filter server 315. This address can be to a memory where the document is stored after being retrieved by a portlet, or a URL to a location of the document on the network. The only requirement is that filter server 315 is able to access the requested document.

Replace the paragraph extending from Page 28, line 14 to Page 28, line 30 with:

022

In response to the request, filter server 315 builds a filter that can read the requested document, dynamically convert the read data using a partial filter adapter chain to the new format, and then write the converted data in the new format so that the data can be supplied to portlet manager 113.

More specifically, in response to the request from portlet manager 113, filter server 315 via a conversion service 310, in one embodiment, causes a protocol reader to be instantiated and uses the protocol reader to access the requested document to determine the format of the requested data, i.e., the source document data format. With the source document data format and the target document data format, i.e., the MIME type received in the original request, filter server 315 builds a filter for

*A22*  
converting the format of source document to the format of the target document.

*A23*  
Replace the paragraph extending from Page 29, line 7 to Page 29, line 18 with:

In this embodiment, filter server 315 via conversion service 310 constructs a data filter by gluing a protocol read and parser unit to an input end of the partial filter adapter chain and a bit stream printer and protocol writer to an output end of the chain. After construction of the data filter, conversion service 310 uses the data filter to process the requested document, e.g., the spreadsheet. The data filter generates data with a MIME type that can be input to the presentation scheme that is returned to portlet manager 113, which in turn processes the data as described above.

*A24*  
Replace the paragraph extending from Page 29, line 32 to Page 30, line 7 with:

A more complete description of filter server 315, and each of the components therein is provided in commonly filed and commonly assigned U.S. Patent Application Serial No.

*[09/xxx,xxx] 09/759,742*, entitled "A METHOD AND STRUCTURE FOR DYNAMIC CONVERSION OF DATA," of Ralf Hofmann and Michael Hönnig, which is incorporated herein by reference in its entirety. In another embodiment, filter server 315 provides information about the dynamic filter to portlet manager 113, and portlet manager 113 stores a new presentation scheme on unit 302 that includes the dynamic filter generated by filter server 315, or at least a handle to the dynamic filter, and the retrieved presentation scheme.

Replace the paragraph extending from Page 30, line 15 to Page 30, line 19 with:

*A25*

In one embodiment, the URL in the request from the user device is of the form:

`http://<server>:<port>/portlet/<command string>  
?<parameters>.`

Replace the paragraph extending from Page 31, line 8 to Page 31, line 17 with:

*A26*

After portlet manager 113 is initialized, portlet manager 113 first issues a get context message to the configuration object, and then issues a get parameters object message to the configuration object. In the embodiment of Figure 6, the configuration path names are loaded to XSL and XML files. The creation and initialization messages are issued by web server 111 only once for the purpose of initialization. Subsequently, the search for the servlet that is portlet manager 113 finds portlet manager 113.

Replace the paragraph extending from Page 31, line 30 to Page 31, line 37 with:

*A27*

In response to the call to method do Get, portlet manager 113 issues calls to methods get header and get servlet path of the HTTP request object. Portlet manager 113 builds a string that specifies the URL of the portlet based on the information in the request from the user device. See Figures 7A to 7B for one embodiment of HTTP Get and Post commands and method do Get.

Replace the paragraph extending from Page 33, line 8 to Page 33, line 24 with:

*A28*

If the connection uses the HTTP protocol, information in the HTTP header can be used to recognize the MIME type of the response content. If the protocol is not HTTP, the extension

of the URL is checked to determine the type of the response content. If the extension of the URL is .xml, a guess is made of what type of XML file is requested by analyzing a field DOCTYPE in the header of the XML file. In the case that an XML file based on a certain document type definition is recognized, the response type is set to the name associated with the document type definition. If the response is not an XML file, the URL connection object guesses the content type of the response content. This is done by a JAVA URLConnnection object that is part of the JAVA runtime environment, which is incorporated herein by reference to show the level of skill in the art.

Replace the paragraph extending from Page 33, line 32 to Page 34, line 7 with:

If the request was a HTTP request, and no preferred MIME type was specified, the preferred MIME type associated with the user is used. If the request failed to specify a device type, the device type associated with the user is used. If the request was for an XML file, and the XML parameter that specified the stylesheet in the original request was not used, a channel XSL-stylesheet is used if the command in the original request was command channel, and an article XSL style sheet is used if the command in the original command was command article. If the original request specified an XSL-stylesheet, this stylesheet is used. (See Fig. 4.)

Replace the paragraph extending from Page 34, line 25 to Page 34, line 30 with:

If the loaded document is a list of portlets because no portlet was specified in the original URL, or has a MIME type that is not accepted by the user device, the document is modified in a memory to which the user is not subscribed. This

*G30  
1001*  
is necessary, because such content could not be displayed on the user device.

Replace the paragraph extending from Page 35, line 23 to Page 35, line 36 with:

*G31*  
In view of this disclosure, various alternative embodiments will be apparent to those of skill in the art. For example, in the above embodiment, data was retrieved by presentation manager 113, and presentation manager 113 applied the selected presentation scheme to the data. In another embodiment of the present invention, the data may be retrieved by the user device itself. Then, the selected presentation scheme may be applied by the user device or by the presentation manager 113. The latter, for example, would apply if the data retrieved by the user device were transferred to presentation manager 113 for applying the selected presentation scheme and then re-transferred to the user device.

IN THE ABSTRACT

Replace the paragraph extending from Page 45, line 11 to Page 45, line 33 with:

*G32*  
Access to external service providers is provided through portlets, where each portlet accessible by a user is represented on the display of the user device. Through use of a dynamic content channel, e.g., a portlet, a highly customizable content page may be produced for any individual client system. When a portlet is selected on a user device, the content associated with the portlet is retrieved and automatically transformed into data that can be displayed by that user device. Thus, a particular user device is not limited to accessing content in a format identical to that associated with the user interface in use on the user device. Consequently, the user's ability to access a wide variety of

*Q3/1*  
content sources independent of the characteristics of the particular user device is further enhanced.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 9, 2003.

  
Attorney for Applicant(s)

May 9, 2003  
Date of Signature